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# Editorial

## Quantum Information with Atoms, Ions and Photons

This special issue is associated with the conference "Quantum Information with Atoms, Ions and Photons", which took place in La Thuile, Italy, from March 6 until March 12, 2004.

This conference was the final meeting of the European Research Training Network "QUEST" ("Quantum Entangled States of Trapped Particles" project number HPRN-CT-2000-00121), and the kickoff meeting for the new RTN Network "CONQUEST" ("Controlled Quantum Coherence and Entanglement in Sets of Trapped Particles" project number MRTN-CT-2003-505089). The conference was also open to non-members of these networks, who were invited to submit contributed papers to the special issue. Support to this event from the Marie Curie Program of the European Commission is gratefully acknowledged.

The special issue has been organized in three sections: (1) Cavity QED and trapped neutral atoms, (2) Novel schemes for quantum information processing, (3) Entanglement and non-locality. Overall this set of fourteen articles provide a vivid illustrations of current theoretical and experimental activities related to using trapped atoms, ions and photons, as well as quantum entanglement, towards applications for quantum computation and information processing.

The editors of the special issue:
Vladimir Bužek, Philippe Grangier and Paolo Tombesi